

**DEPARTMENT OF TRANSPORTATION**

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



Bay Area Branch  
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Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 69.28**WELDING INSPECTION REPORT****Resident Engineer:**Siegenthaler, Peter**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-018371**Date Inspected:** 23-Nov-2010**Project Name:** SAS Superstructure**OSM Arrival Time:** 700**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1900**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai, China**CWI Name:** Mr.Xu Le Fung.**CWI Present:** Yes No**Inspected CWI report:** Yes No N/A**Rod Oven in Use:** Yes No N/A**Electrode to specification:** Yes No N/A**Weld Procedures Followed:** Yes No N/A**Qualified Welders:** Yes No N/A**Verified Joint Fit-up:** Yes No N/A**Approved Drawings:** Yes No N/A**Approved WPS:** Yes No N/A**Delayed / Cancelled:** Yes No N/A**Bridge No:** 34-0006**Component:** Tower and Orthotropic Box Girder (OBG)**Summary of Items Observed:**

On this day CALTRANS OSM Quality Assurance (QA) Inspector Shailesh Gaikwad was present during the times noted above for observations relative to the fabrication of the SAS Superstructure being performed by Zhenhua Port Machinery Company (ZPMC) at Changxing Island in Shanghai, China. QA observed and/or found the following:

NDT:

BAY 11:

This QA Inspector performed randomly Visual Inspection and Magnetic Particle Testing (MT) of approximately 15% of the area previously tested and accepted by ZPMC Quality Control personnel. This QA Inspector generated a TL- 6028 (MT) report for this date. The member is identified as OBG Bike Path. The weld designations reviewed are as follows.

BK004A3-027-022, 046, 030, 031, 057

BK004A4-027-005, 056, 057, 019, 020, 046, 071

NDT Notification No-07454

BAY 10

This QA Inspector performed randomly Visual Inspection of the area previously tested and accepted by ZPMC Quality Control personnel. The member is identified as OBG Bike Path. The weld designations reviewed are as follows.

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BK004A3-029-065, 067, 068, 100, 101, 102, 069, 070, 071, 103, 104, 105  
BK004A4-029-080, 082, 083, 100, 101, 102, 085, 086, 087, 103, 104, 105  
NDT Notification No-07463

This QA Inspector observed the following work in progress:

BAY 10:

OBG Bike path, FCAW process:

This QA Inspector observed ZPMC qualified welding personnel identified as 040533, 053869 Perform Flux Core Arc Welding (FCAW) on OBG Bike path. Joint identified as BK004A8-033-013, 014, 053, 054. ZPMC QC Identified as Yu Zhi Lai. The welding parameters as measured using QC's calibrated instrument appeared to be in general compliance with WPS-B-T-2132.

This QA Inspector observed ZPMC qualified welding personnel identified as 040533, Perform Flux Core Arc Welding (FCAW) on OBG Bike path. Joint identified as BK004A6-033-013, 014, 019, 020. ZPMC QC Identified as Yu Zhi Lai. The welding parameters as measured using QC's calibrated instrument appeared to be in general compliance with WPS-B-T-2132.

This QA Inspector observed ZPMC qualified welding personnel identified as 040458, 047353 Perform Flux Core Arc Welding (FCAW) on OBG Bike path. Joint identified as BK004A6-033-047, 048, 049, 050, 106, 107, 108, 109. ZPMC QC Identified as Yu Zhi Lai. The welding parameters as measured using QC's calibrated instrument appeared to be in general compliance with WPS-B-T-2133.

This QA Inspector observed ZPMC qualified welding personnel identified as 040533, 053869 Perform Flux Core Arc Welding (FCAW) on OBG Bike path. Joint identified as BK004A1-033-043. ZPMC QC Identified as Lijun. The welding parameters as measured using QC's calibrated instrument appeared to be in general compliance with WPS-B-T-2232-Tc-U4c-F.

This QA Inspector observed ZPMC qualified welding personnel identified as 040458, 047353 Perform Flux Core Arc Welding (FCAW) on OBG Bike path. Joint identified as BK004A1-033-044. ZPMC QC Identified as Lijun. The welding parameters as measured using QC's calibrated instrument appeared to be in general compliance with WPS-B-T-2231-B-U2-F.

BAY 11:

Tower Repair Welding, SMAW process:

This QA Inspector observed ZPMC qualified welding personnel identified as 044541, Perform Shielded Metal Arc Welding (SMAW) on Tower Bracket Stiffener lift 5. Joint identified as ND1-BRSA5-2-6A/B. ZPMC QC Identified as Libin with temporary welding repair report WRR-T-WR 3772 R1. The welding parameters as measured using QC's calibrated instrument appeared to be in general compliance with WPS-485-SMAW-2G (2F) Repair.

Lift 6, FCAW process:

This QA Inspector observed ZPMC qualified welding personnel identified as 046769, 040704 Perform Flux Core Arc Welding (FCAW) on Lift 6 Assembly plate. Joint identified as ESD1-FDSA-6-2-7, 8. ZPMC QC Identified

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as Shao Hai Lang. The welding parameters as measured using QC's calibrated instrument appeared to be in general compliance with WPS-B-T-2132.

This QA Inspector observed ZPMC qualified welding personnel identified as 042218, 040723 Perform Flux Core Arc Welding (FCAW) on Lift 6 Assembly plate. Joint identified as WSD1-FCSA-6-4-2, 1. ZPMC QC Identified as Shao Hai Lang. The welding parameters as measured using QC's calibrated instrument appeared to be in general compliance with WPS-B-T-2132.

OBG Bike path, FCAW process:

This QA Inspector observed ZPMC qualified welding personnel identified as 205649 Perform Flux Core Arc Welding (FCAW) on OBG Bike path. Joint identified as BK004A6-022-002, 007. ZPMC CWI Identified as Yu Dong Ping. The welding parameters as measured using QC's calibrated instrument appeared to be in general compliance with WPS-B-T-2332-Tc-P4-F.

This QA Inspector observed ZPMC qualified welding personnel identified as 040723 Perform Flux Core Arc Welding (FCAW) on OBG Bike path. Joint identified as BK004A8-022-001, 130. ZPMC CWI Identified as Yu Dong Ping. The welding parameters as measured using QC's calibrated instrument appeared to be in general compliance with WPS-B-T-2333-Tc-P4-F.

BAY 11:

OBG Repair Welding, FCAW process:

This QA Inspector observed ZPMC qualified welding personnel identified as 044541, Perform Flux Core Arc Welding (FCAW) on OBG Bike path plate weld build up 3~4mm. Plate identified as BK004A-022-BKPL3A, 3B, 7A, 7B. ZPMC CWI Identified as Yu Dong Ping with temporary welding repair report. The welding parameters as measured using QC's calibrated instrument appeared to be in general compliance with WPS-345-FCMAW-2G (2F) Repair and WPS-345-FCMAW-3G (3F) Repair.

BAY 11:

During Caltrans QA in process observations of the fabrication of OBG Bike Path bottom cover plate. This QA discovered the following issue(s): ZPMC welding personnel did not appear to be following the NEW WELD PROCEDURE (Rager / McQuaid) The following requirements were not followed:

3. Preparation for welding

A B C D E F G H I J K L M N

X

6. Non Destructive testing

A B C D E F G H

X

NOTE: The above tables are relative to sections 2 ~ 6 of the NEW WELD PROCEDURE (Rager / McQuaid) and the corresponding paragraph letters.

The weld is identified as BK004C2-024-018, 016. The welding process used was Flux Core Arc Welding (FCAW).

The area was being not preheated to 165 degrees. ZPMC personnel did not inspect 100% VT and MT of backgouged area before welding began from the second side. The weld is a Completed joint Penetration, (CJP)

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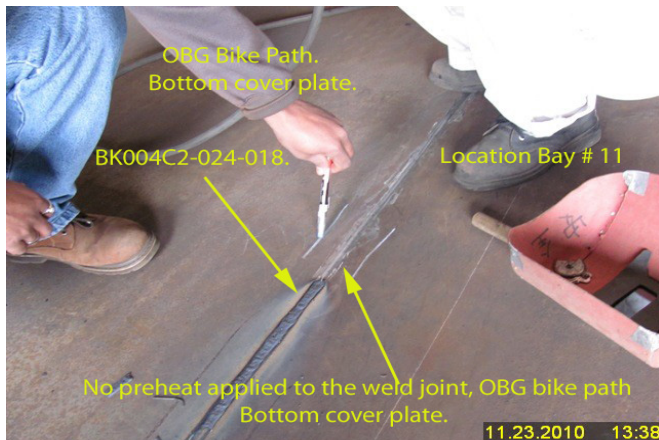
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joining 6mm plate to 6mm plate. The weld is not SPCM. OBG Bike path, Bottom cover plate is located in Bay # 11. For further information, please see the attached picture below. This QA Inspector generated Incident report on this date.

Unless otherwise noted, all work observed on this date appeared to be in general compliance with the applicable contract documents.



### Summary of Conversations:

Only general conversation was held between QA and QC concerning this project.

### Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Thomas Ho phone : 150002048250, who represents the Office of Structural Materials for your project.

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**Inspected By:** Gaikwad,Shailesh

Quality Assurance Inspector

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**Reviewed By:** Clifford,William

QA Reviewer